

**Notice of Allowability**

Application No.

10/688,181

Examiner

Eugene Yun

Applicant(s)

MARTIN ET AL.

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to response filed 8/14/2006.
2. ☒ The allowed claim(s) is/are 1-36.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

**DETAILED ACTION**

***Allowable Subject Matter***

1. Claims 1-36 are allowed.

Regarding Claim 1, Dvorkin, Ahonen, Gitlin, Ella, and Lahti do not teach, alone nor in combination, the combination of:

at least two feed points, adapted to connect separately to at least two of a plurality of electrically separated antennas for receiving communication signals in the communication device; and

at least one isolation component, disposed in the signal paths, for providing cross-band isolation between at least two of the signal paths, wherein at least two of said plurality of signal paths adapted to simultaneously receive communication signals in a plurality of frequency bands from one of the antennas through one of the two feed points, and at least a different one of the said plurality of signal paths is adapted to receive communication signals from another one of the antennas through the other of the two feed points in a further frequency band different from the said plurality of frequency bands.

Regarding Claim 33, Dvorkin, Ahonen, Gitlin, Ella, and Lahti do not teach, alone nor in combination, the combination of:

providing at least a first feed point and a second feed point, the first and second feed points adapted to connect separately to at least two of a plurality of electrically separated antennas;

operatively connecting at least two of a plurality of signal paths to the first feed point for receiving communication signals through the first feed point, and at least a different one of said plurality of signal paths to the second feed point for receiving communication signals through the second feed point, each of the signal paths connected to the first and second feed points has a filter for filtering the communication signals in the corresponding frequency band; and

providing cross-band isolation between at least two of said plurality of signal paths, wherein the communication signals received in at least one of the signal paths connected to the first feed point and the communication signals received in at least one of the signal paths connected to the second feed point are transmitted in the same frequency band and transmission mode;

wherein the two signal paths connected to the first feed points are adapted to receive communication signals in different frequency bands.

Referring to Claim 34, Dvorkin, Ahonen, Gitlin, Ella, and Lahti do not teach, alone nor in combination, the combination of:

a plurality of electrically separated RF antennas, including a first antenna and a second antenna, and a front-end module comprising:

at least a first feed point and a second feed point separately connected to the first and second antennas, and a plurality of signal paths operatively connected to the first and second feed points for receiving communication signals in a plurality of frequency bands, each signal path having a filter for filtering the communication signals in the corresponding frequency band, wherein the communication signals received in at

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least one of the signal paths connected to the first feed point and the communication signals received in at least one of the signal paths connected to the second feed point are transmitted in the same frequency band and transmission mode, and the communication signals received in another different one of the signal paths connected to the first feed point transmitted in a different frequency band.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugene Yun whose telephone number is (571) 272-7860. The examiner can normally be reached on 9:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew D. Anderson can be reached on (571)272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Eugene Yun  
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**Matthew D. Anderson**  
Supervisory Patent Examiner